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(WO/2005/049643) NOVEL CAROTENOID HYDROXYLASE GENE, PROCESS FOR PRODUCING HYDROXYLATED CAROTENOID, AND NOVEL GERANYLGERANYL PYROPHOSPHATE SYNTHASE GENE

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Title: (EN) NOVEL CAROTENOID HYDROXYLASE GENE, PROCESS FOR PRODUCING HYDROXYLATED CAROTENOID, AND NOVEL GERANYLGERANYL PYROPHOSPHATE SYNTHASE GENE
 (JA) 新規なカロテノイドヒドロキシラーゼ遺伝子及び水酸化されたカロテノイドの製造法及び新規なゲラニルゲラニルピロリン酸シンターゼ遺伝子

Abstract: (EN) A peptide obtained from Brevundimonas strain SD-212 and having a β-ionone ring-2-hydroxylase activity; and a gene coding for the same. Thus, it becomes feasible to realize mass production of a carotenoid having hydroxyl introduced at the carbon of 2-(2')-position of β-ionone ring, which carotenoid occurs in nature only in minute amount. There is further provided a novel gene coding for an enzyme for introduction of hydroxyl at the carbon of 3-(3')-position of carotenoid having a β-ionone ring, and provided a novel gene coding for geranylgeranyl pyrophosphate synthase.

(JA) プレババンディモナスSD-212株から得られ、 β -イオノン環-2-ヒドロキシラーゼ活性を有するペプチド、及びそれをコードする遺伝子を提供し、自然界に微量しか存在しない β -イオノン環の2(2')位の炭素に水酸基が導入されたカロテノイドの大量製造を可能にする。また、 β -イオノン環を有するカロテノイドの3(3')位の炭素に水酸基を導入する酵素をコードする新規なゲラニルゲラニルピロリン酸シンターゼ遺伝子を提供する。

本発明の目的は、上記の遺伝子にコードされる酵素をコードする核酸塩基配列を決定し、その配列を決定した遺伝子を用いて、新規な遺伝子を提供することである。

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